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ABSTRACT

Some of the conceptual and methodological problems in identifying and measuring creativity in young children are presented. Among the issues raised are: (1) the prediction of validity of creativity tests, (2) the problem of predicting adult creativity from evidence of childhood creativity, and (3) the need to identify and adequately measure the various components of creativity rather than grouping these components under the rubric "creativity", and (4) the need to discover the relationships among the various components of creativity. (BB)

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RESEARCH BULLETIN

CREATIVITY ASSESSMENT IN YOUNG CHILDREN

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Paper presented at the National Council on Measurement in Education Symposium, "Creativity Measurement Today," Chicago, April 1974.

Educational Testing Service
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Educational Testing Service

You are all familiar with the old story about the Arab, the camel, and the tent. The camel, on a cold night, asked permission to stick his nose inside. One camel nose doesn't take up too much room, so the Arab was quite willing. As the night breeze picked up intensity, the camel asked if perhaps there was room for the rest of his head, and again the Arab consented. By morning, the Arab found himself outside in the cold, as the camel had stopped asking and moved right on in.

As a student of creativity in children, I have sometimes found myself playing the role of camel, but with some very important differences. For one thing, it wasn't that I was pushing to get into the tent, but that I was dragged there, kicking and biting to no avail. For another, it wasn't that the outside air was cold; rather, things were uncomfortably hot inside the tent. I am often accused of willful obscurantism, so let me hasten to translate. Psychologists who want to do "basic research" with school children frequently have an awful time getting through the door. A lot of tough questions are asked. For instance: why are you doing the research? It's easy to give an answer which will satisfy another psychologist, but I always have trouble when my grandmother or even my daughter asks it. Even worse is the question: How will it help these children? Here, talent as an obscurantist is generally the most helpful resource.

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[1]Paper presented at the NCME Symposium, "Creativity Measurement Today." Chicago, April, 1974.

However, the Arab and the camel change roles as soon as the word "creativity" is invoked. The tough questions never get asked, and the researcher is more likely to be pulled in than to have the flap shut in his face. I find myself protesting that I'm not really sure my tests are measuring creativity; I don't want you to evaluate teachers by how well their children do on a creativity test; nor do I want you to select children for special educational treatment because they score high or low on this instrument. It takes a hard negative sell to keep the world from treating any measure with the name "creativity" with reverence, when what it deserves is a more careful scrutiny than measures with less pretense.

It is difficult enough to be comfortable in assessing creativity in mature individuals--those who have the knowledge and the opportunity to do something which is really different and really useful or exciting. When the question is that of creativity in children, the problems are compounded many times over. We cannot demand of a child that he produce something actually different and socially useful; we generally settle for a disposition in this direction. This disposition is likely to be shown by behavior which is original only relatively, not in any absolute sense, and which has no social usefulness at all. The behavior is likely to be obtained in a testing situation, which means that a different set of motivations comes into play--not, "Do you care enough to obtain the expertise and to exert the effort required to do something very difficult and demanding of your own choosing?"; but, "Do you take seriously a trivial problem which someone else assigns to you at a time and under a time limit which is convenient for him?"

There are two basic strategies for escaping from this net of problems. One is to show that what we can measure in children does indeed predict which of those children will become productive, innovative adults. There have been a few studies on the predictive validity of creativity tests starting with high school or college students; the outcomes have been no better than mixed. So far as I know, there are no studies even attempting to predict from early childhood to mature creative production. And certainly, a number of further problems arise in conceptualizing such a study. For example, childhood creativity is more likely to be a necessary than a sufficient basis for prediction of adult accomplishment. This is partly a case of regression to the mean--the more relevant experiences there are that intervene between prediction and outcome, the more watered-down the prediction can be expected to be. More fundamentally, so long as the criterion is one of significant attainment, a number of characteristics in addition to "creativity" are relevant: drive, self-confidence, opportunity to practice relevant skills, and so on. Remember a statement by MacKinnon: "The successful and effective architect must, with the skill of a juggler, combine, reconcile, and exercise the diverse skills of businessman, lawyer, artist, engineer, and advertising man, as well as those of author and journalist, psychiatrist, educator, and psychologist." (1962, p. 486). Thus, if we define creativity narrowly, there are too many experiences intervening between early childhood and adulthood, and too many additional abilities required, to expect much prediction to mature accomplishment. If we broaden the concept to include all these additional abilities and motives, then I suspect we have to begin all over to look for the appropriate testing situation; cer-

tainly none of our simple divergent thinking tests or our observations of playfulness in the preschool will do the job.

The other escape route is to give up the hope of predicting to adult accomplishment, and to be content with what we can measure in children. This can take the form of "Creativity is what the creativity tests measure," but that is even less satisfactory with creativity than it is with intelligence--in IQ testing, different measures at least tend to correlate rather well with one another, and they stay stable over a period of years. Tests used to measure creativity in young children do not possess either of these attributes to any marked degree.

The more sensible version of this escape is to settle on characteristics like divergent thinking, or playfulness, or openness to experience; to show that they do make a difference in the lives of children; and not to worry whether they predict adult accomplishment. We would like them to predict to divergent thinking, playfulness, or openness in adulthood, but even that we can live without--a trait can be important in present functioning without being stable over a long period of time. But note that we give up, in this approach, any good justification for using the same label, creative, in describing children and adults.

Suppose we decide to settle for measurement of, say, playfulness in children. We are able to measure this trait--Nina Lieberman's work shows that--and almost any list of characteristics of the creative person includes it. Certainly playfulness is a good thing, then, and we can comfortably single out the more playful school children as more creative; we can have teachers encourage it in their students; and so on. But wait a minute.

Granting that some playfulness is desirable, does it follow that we should aid and abet the six-year-old or the twelve-year-old in becoming more playful? I can imagine creating a situation involving too much of a good thing. Perhaps there are periods in a child's development when he needs to take things very seriously; when his business is to learn what is, before he goes off again to consider what might be. The introduction to formal schooling is a sobering experience for most children, and we can easily lament the decline of spontaneity, naivety, and other childlike attributes. In many cases I would agree that too much is lost. But still--there must be a base of disciplined, convergent thinking behind the playing with ideas which so many biographies of creativity rejoice in. In the sciences and in the arts we find that great accomplishments come often after years of hard work and single-minded devotion; persistence, task-involvement, and similar traits are also things we can measure in children, and perhaps it is these that teachers should encourage. In fact, I think that either extreme is too extreme; both spontaneity and devotion to duty are desirable attributes, and we should encourage the educational system to foster both of them. But should we push toward both goals at the same time, having teachers encourage children to be somewhat task-devoted and somewhat spontaneous at once? Perhaps instead we should make these aims sequential in the short run--have children spontaneously choose problems to which they must then devote sustained effort; or perhaps we should alternate emphases over a longer period of time--say, encourage convergent thinking while a child learns basic reading skills, and then let him play with the ideas these skills make available to him...

I think I can add to my list of worries at least as fast as you can find holes in my logic. At any rate, perhaps you will see why I am concerned when someone other than another ivory-tower psychologist asks about measuring or fostering creativity in children.

Unless we want to close up shop and go home, what do we do? Sometimes, so far as the educational system is concerned, it may be appropriate just to relax and ignore the problems. A few years ago, I had occasion to give some creativity tests to children who were candidates for admission to a new private school for the gifted. The school got the creativity data, along with all the caveats about for-research-purposes-only. I was told later that one child had been admitted to the school because of her high creativity scores, despite her low IQ. She scored only 115 on the Stanford-Binet, substantially below the minimum level for admission, which was 130, and the average for the entering class, which was 154. Still later, it turned out that she was a perfectly satisfactory and successful student in this rather unusual educational milieu. This case does not demonstrate anything systematic about creativity tests, their relations to academic achievement, or anything else. The point is that it may be good to give a school or a parent more than one basis on which to label a child as exceptionally good. Maybe Rosenthal's effect will operate. Maybe teachers and others will be more exciting and innovative in working with a child who is seen as talented. And to the extent that we think schools ignore creativity as a goal, adding creativity tests to assessment batteries is a fine corrective. It tells teachers that we value creativity and that, therefore, some of their efforts should go into fostering it or preserving it. But, of course, I'm still not sure what creativity is in children or whether

I do want the school to foster it. Moreover, I am more interested in how my colleagues and I can get somewhere theoretically and conceptually with the understanding of creativity than I am with our present classroom impact, except to keep us from being harmful.

My most serious single suggestion is that we give up using the word "creativity" in the name of any instrument used in research with young children. In a sense, go back to early Guilford; call the instrument a measure of playfulness, of openness to experience, of ideational fluency, or of whatever else it looks like. Be as specific as the data require, or a little more so. Don't even label your test an index of "playfulness" until you are sure of a number of things--that an individual's performance is stable across situations in which a task is assigned to him and those in which he is free to structure his own activity; that there is a lot of variance shared among scores obtained in small groups and when the individual is alone in an enriched environment; and that the correlates of the index do not change when you tell the subject what you are measuring. If behaviors hang together over such variations, then a label like "playfulness" is merited. If not, we may be forced to talk about measures of "playfulness in unobtrusively observed, unstructured, small-group situations." I wouldn't like this result very much, but at least attention to its possibility would get us out of a number of problems. For one thing, schools would not be quite so eager to assess or augment "playfulness in unstructured small groups" as they are when "CREATIVITY" is at issue. For another, we would not set up studies to discover whether my creativity measure and yours are correlated, and then lament the poor state of the art when it turns out they are not. Instead, we might find ourselves

asking--if we are lucky--whether my openness to experience scale and your sensitivity to problems scale are correlated; and if not, what are the differences in underlying processes, in experiential antecedents, and in implications of these two dimensions--without having to reject either as unworthy or as not what we really mean by creativity. Finally, our predictive studies could be posed in more sensitive ways. We would not ask whether divergent thinking in the six-year-old predicts outstanding accomplishment in the adult, and then throw away the divergent thinking index if it does not. Rather, we might focus on the stability of divergent thinking over time, along with that of a number of other dimensions as well; and we might ask what combination of these components, if any, serves as a predictor of that accomplishment. In other words, we would be forced to a pluralistic assessment strategy, as soon as the name of an instrument did not let us forget that the instrument represents only a small subset of the operations we could reasonably have chosen to study. And we would be in better position to use failures to relate and to predict--to let them tell us something about the processes underlying the behaviors assessed, rather than, as often happens now, seeing such failures as evidence that creativity is unassessable, unstable, or unpredictable.

You will have noted that I have been fairly consistent in the meaning with which I have used the word "creativity" in referring to adult performance--a creative adult is one who produces something that is both unusual and socially useful. This is a time-honored definition, and probably as good as any that can be concocted. But I suspect that, when we have succeeded in being pluralistic enough in the domain of predictors, we will find that our criterion is uncomfortably monolithic. And we will then have to proceed

to an analogous job of breaking the criterion into components, of discovering rather than assuming the relations among the parts. On both the predictor and the criterion sides, what is called for is analysis followed by synthesis. We have tried to get away with overly global constructions, and will progress in the study of creativity only to the extent that we are willing to tackle the job in whatever size pieces are imposed by the world, not by our convenience in language or in conceptual simplicity.

One final note--back to the intrusive camel. Last July when I put together an abstract of what I would say at this meeting, my intention was to describe the development of another creativity measure for use with children. The task involves giving children gummed stickers of various colors and abstract shapes, and asking them, on two separate occasions, to create a specified product--a tree or a house. I did develop the instrument, and am somewhat pleased with the behavior it elicits. Children as young as four years of age enjoy the task, and often surprise their teachers with the involvement and concentration they show in working on it. They come up with products that can be scored, quickly and reliably, for appropriateness, originality, and flexibility. So I think the task is as good as any other for assessing creativity in young children. My problem, as I sat down to write, was that I had no reason to believe the task was any better than Torrance's Picture Completion, or Starkweather's Originality Test, or any of a number of other instruments which I could have chosen or developed. In wondering what to say to this question, I decided to devote some of my time to issues in creativity measurement, and to squeeze the empirical results a bit. Well, the camel was not content with a bit, and there's no room left for data. The point of this is to tell you that it

is my own house that is the focus of my criticism, and to invite you to write for a manual on the instrument if I have not talked you out of it.

Reference

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